

Docket No. 1948-4293 US1**IN THE CLAIMS**

1. (Currently Amended) A friction material designed for fitting to a device employing friction in a liquid medium, the friction material comprising

approximately 20% to 40% by weight a mat of non-woven fibres,

approximately 40% to 60% by weight a thermosetting resin which impregnates said fibres, wherein the fibres have a length of at least 12 mm, and

filler ranging by weight between ~~a nonzero percentage proximate 0%~~
approximately 1% and approximately 40%, wherein the non-woven fibres and the resin are found in specific proportions with the filler.

2. (Previously Presented) A friction material according to Claim 1, wherein the average length of the fibres is at most 120 mm.

3. (Previously Presented) A friction material according to Claim 2, wherein the fibres are chosen from the group consisting of glass, wool, cotton, ceramic, polyacrylonitrile, preoxidized polyacrylonitrile and aramid.

4. (Previously Presented) A friction material according to Claim 3, wherein the filler is in powder form and incorporated into the mat.

5. (Previously Presented) A friction material according to Claim 4, wherein the filler is selected from the group consisting of copper, rockwool, carbon, zirconium silicate, iron sulphide, alumina, rubber and diatoms.

6. (Previously Presented) A friction material according to Claim 4, wherein the filler is in the form of pulps and incorporated into the mat.

7. (Previously Presented) A friction material according to Claim 6, wherein the filler is selected from the group consisting of the pulps of glass, aramid, acrylic and phenolic fibres.

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8. (Cancelled)

9. (Previously Presented) A friction material according to Claim 1, wherein the thermosetting resin is resol-based.

10. (Previously Presented) A friction material according to Claim 1, wherein latex is added to the thermosetting resin.

11. (Previously Presented) A friction material according to Claim 1, wherein the filler is in powder form and incorporated into the thermosetting resin, and wherein the filler is selected from the group consisting of copper, rockwool, carbon, zirconium silicate, iron sulphide, alumina, rubber and diatoms.

12. (Withdrawn) A method of producing a friction material comprising the steps of:

- a) providing a mixture of fibres;
- b) carding the mixture to form a card web;
- c) lapping the card web to form a lapped card web;
- d) needling the lapped card web to form a needled mat of non-woven material;
- e) impregnating the needled mat with a thermosetting resin to form an impregnated mat; and
- f) drying the impregnated mat.

13. (Withdrawn) A method according to Claim 12, wherein between steps b) and c), fillers in powder form are sprinkled on the card web, said fillers being selected from the group consisting of copper, rockwool, carbon, zirconium silicate, iron sulphide, alumina, rubber and diatoms.

14. (Withdrawn) A method according to Claim 12, wherein before step e), fillers in powder form selected from the group consisting of copper, rockwool, carbon, zirconium silicate, iron sulphide, alumina, rubber and diatoms are added to the thermosetting resin.

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15. (Withdrawn) A method according to Claim 12, further comprising the step of impregnating the needled mat with fillers in powder form using a liquid having said fillers in powder form using a liquid having said fillers in powder form dispersed therein before step e), said fillers in powder form being selected from the group consisting of copper, rockwool, carbon, zirconium silicate, iron sulphide, alumina, rubber and diatoms.

16. (Withdrawn) A method according to Claim 12, wherein the carding step is effected by a wool card.

17. (Withdrawn) A method according to Claim 12, wherein the needling step is preceded by a preliminary needling step.

18. (Withdrawn) A method according to Claim 12, wherein the impregnating step is effected by soaking the needled mat in a tank containing the resin dispersed in water.

19. (Canceled)

20. (Withdrawn) A method according to Claim 12, further comprising the step of winding up the impregnated mat after the drying step.

21. (Canceled)

22. (Withdrawn) A method according to Claim 12, further comprising the step of cutting a ring out from the mat.

23. (Withdrawn) Method of producing a device coated with a friction material obtained by means of the method according to Claim 22, characterised by the following steps:

- i) the ring or plurality of sectors forming the ring is placed at the bottom of a mould;
- j) a metal support is placed in the mould on the ring or on the plurality of sectors

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forming a ring;

k) where appropriate, a second ring or plurality of sectors forming a ring is placed on the metal support, opposite the said ring or the said plurality of sectors forming a ring;

l) the mould is closed, shims being disposed so as to control and limit movement of a piston closing the mould;

m) heating under pressure is effected in the mould, thereby also ensuring the adhesion of the said ring, and where applicable of the said second ring, to the metal support;

n) the mould is opened and the device covered with the friction material is cooled.

24. (Withdrawn) Method of producing a device covered with a friction material according to Claim 23, characterised in that the shims limiting the movement of the piston are sized so that the porosity of the friction material is between 20% and 70%.

25. (Previously Presented) A friction material according to Claim 5, wherein the filler is in form of pulps and incorporated into the mat.

26. (Canceled)

27. (Withdrawn) A method according to Claim 13, wherein before step e), fillers in powder form selected from the group consisting of copper, rockwool, carbon, zirconium silicate, iron sulphide, alumina, rubber and diatoms are added to the thermosetting resin.

28. (Previously Presented) A friction material according to Claim 1, wherein the thermosetting resin includes a polar solvent, the polar solvent being an aqueous polar solvent.

29. (Withdrawn) A method according to Claim 12, wherein said mixture is a mixture of different fibres

30. (Withdrawn) A method according to Claim 12, wherein the impregnating step is effected by soaking the needleled mat in a tank containing the resin in solution in water.

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31. (Withdrawn) A method according to Claim 12, further comprising the step of winding up the impregnated mat during the drying step.

32. (Withdrawn) A method according to Claim 12, further comprising the step of cutting a plurality of sectors out from the mat, each of said sectors comprising a portion of a ring.

33. (Currently Amended) A friction material for a device employing friction in a liquid medium, the friction material comprising a mat of non-woven fibres impregnated with a thermosetting resin, wherein the friction material comprises by weight

approximately 20% to 40% fibres selected from the group consisting of glass wool, cotton, ceramic, polyacrylonitrile, preoxidized polyacrylonitrile and aramid;

approximately 40% to 60% thermosetting resin selected from the group consisting of water-based resins, resol-based resins, phenolic plastic resins, aminoaldehyde resins, epoxy resins and polyimide resins; and

a nonzero percentage proximate 0% to approximately 1% to 40% filler, wherein the fibres and the thermosetting resin are found in specific proportions with the filler.

34. (Previously Presented) The friction material according to Claim 33 wherein the fibres have an average length of between approximately 12 mm and 120 mm.

35. (Previously Presented) The friction material according to Claim 33 that is by weight approximately 20% glass fibres, 10% ceramic fibres, 10% polyacrylonitrile fibres, and 60% water-based resin.

36. (Previously Presented) The friction material according to Claim 33 that is by weight approximately 30% cotton fibres, 10% ceramic fibres, and 60% water-based resin.

37. (Previously Presented) The friction material according to Claim 33, wherein the filler is selected from the group consisting of copper, rockwool, carbon, zirconium silicate, iron sulphide,

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alumina, rubber, diatoms, glass, aramid, acrylic and phenolic fibres.

38. (Previously Presented) The friction material according to Claim 37 that is by weight approximately 20% glass fibres, 10% ceramic fibres, 10% polyacrylonitrile fibres, 10% carbon, 10% coke, and 40% resol-based resin.

39. (Previously Presented) The friction material according to Claim 37 that is by weight approximately 20% glass fibres, 10% ceramic fibres, 10% polyacrylonitrile fibres, 10% copper, 10% rockwool, and 40% resol-based resin.